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EXAMINER

NGUYEN, KHAI MINH

ART UNIT PAPER NUMBER

2687

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,495

Applicant(s)

GOLDBERG, STEVEN JEFFREY

Examiner

Khai M. Nguyen

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's argument with respect to claim 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 11-14 are rejected under 35 U.S.C. 102(a) as being anticipated by Shapira, Joseph (W.O 02/15326 A2).

Regarding claim 11, Shapira teaches a method for dynamically adjusting beams to optimize transmissions within a wireless communication system (fig.1, fig.9-10, abstract, page.4, line 31 to page.5, line 8, page.9, lines 8-10) comprising:

computing tilt information in real-time based on actual conditions in a wireless communication system (fig.10, 11a-11b, page.9, line 31 to page10, line 15, page.14, lines 11-37); and

adjusting at least one beam in at least a vertical dimension based on the computed tilt information (fig.9-10, page 2, lines 11-18, page.13, line 24 to page.25, line 10, page.15, lines 29-35).

Regarding claim 12, Shapira teaches the method of claim 11 further comprising the step of computing tilt information to adjust the beam to minimize interference to and from another antenna (page.11, lines 17-37).

Regarding claim 13, Shapira teaches the method of claim 11 further comprising the step of computing tilt information to adjust the beam to account for variations in elevation between WTRUs (fig.9-10, page 2, lines 11-18, page.13, line 24 to page.25, line 24).

Regarding claim 14, Shapira teaches the method of claim 11 further comprising the step of computing tilt information so that the beam is dithered to break up null areas wherein transmission signals are not decodable (page.14, line 25 to page.15, line 8).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shapira, Joseph (W.O 02/15326 A2) in view of Malladi et al. (U.S.Pub-20050130693).

Regarding claim 1, Shapira teaches a wireless communication system for transmitting and receiving wireless communications using at least one beam (fig.1, fig.9, abstract, page.4, line 31 to page.5, line 8) comprising:

a plurality of wireless transmit/receive units (WTRUs); (page 2, lines 19-31, page.5, lines 16-24);

at least one base station having at least one beam forming antenna wherein at least one beam emanating from the beam forming antenna may be dynamically adjusted in at least a vertical dimension (fig.9, page 2, lines 11-18, page.13, line 24 to page.25, line 10, page.15, lines 29-35); and

Shapira fails to specially disclose an radio network controller (RNC) for controlling the dynamic adjustment of the at least one beam to optimize transmission between the antenna and at least one WTRU. However, Malladi teaches method and apparatus for uplink power control during link imbalance that considers the reverse link HS-DPCH, and Malladi teaches an radio network controller (RNC) for controlling the

dynamic adjustment of the at least one beam to optimize transmission between the antenna and at least one WTRU (paragraph 0028). Therefore, it have been obvious to one of ordinary skill in the art at the time the invention was made to use an radio network controller (RNC) for controlling the dynamic adjustment of the at least one beam to optimize transmission between the antenna and at least one WTRU as taught by Malladi with Shapira teaching in order to maintain the integrity of the uplink HS-DPCCH when the UE goes into different cell or sector.

Regarding claim 2, Shapira further teaches the wireless communication system of claim 1 wherein the beam is further dynamically adjusted in a horizontal dimension (fig.10, page 2, lines 11-18, page.13, line 24 to page.25, line 24)

Regarding claim 3, Shapira further teaches the wireless communication system of claim 1 wherein a Node B is provided for generating control signals for dynamically adjusting the beam in accordance with tilt information provided by the radio network controller (fig.9-10, page 2, lines 11-18, page.13, line 24 to page.25, line 24).

Regarding claim 4, Shapira further teaches the wireless communication system of claim 1 wherein tilt information is sent from the radio network controller to the antenna wherein control signals are generated for dynamically adjusting the beam in

accordance with tilt information provided by the radio network controller (fig.9-10, page 2, lines 11-18, page.13, line 24 to page.25, line 24).

Regarding claim 5, Shapira further teaches the wireless communication system of claim 1 wherein the beam is tilted downward to reduce interference to and from another antenna (page.11, lines 17-37).

Regarding claim 6, Shapira further teaches the wireless communication system of claim 1 wherein the beam is dynamically adjusted to account for variations in elevation between the WTRUs (fig.9-10, page 2, lines 11-18, page.13, line 24 to page.25, line 24).

Regarding claim 7, Shapira further teaches the wireless communication system of claim 1 wherein the beam is dynamically adjusted to break up null areas wherein transmission signals are not decodable (page.14, line 25 to page.15, line 8).

Regarding claim 8, Shapira further teaches the wireless communication system of claim 7 wherein the beam is adjusted by dithering the beam in at least a vertical

dimension (fig.9, page 2, lines 11-18, page.13, line 24 to page.25, line 10, page.15, lines 29-35).

Regarding claim 9, Shapira further teaches the wireless communication system of claim 7 wherein the beam is adjusted by dithering the beam in a vertical and horizontal dimension (fig.9-10, page 2, lines 11-18, page.13, line 24 to page.25, line 10, page.15, lines 29-35).

Regarding claim 10, Shapira further teaches the wireless communication system of claim 1 wherein the beam is adjusted to provide multiple signals along multiple paths to increase the data rate at which a receiving WTRU may receive data contained within the signals (fig.9, page 2, lines 11-18, page.13, line 24 to page.25, line 10, page.15, lines 29-35).

Regarding claim 15, Shapira teaches a wireless communication system for transmitting and receiving wireless communications using at least one beam (fig.1, fig.9, abstract, page.4, line 31 to page.5, line 8) comprising:

a plurality of WTRUs (page 2, lines 19-31, page.5, lines 16-24);

at least one base station having at least one beam forming antenna wherein a beam emanating from the beam forming antenna may be dynamically adjusted in at least a vertical dimension (fig.9, page 2, lines 11-18, page.13, line 24 to page.25, line 10, page.15, lines 29-35); and

Shapira fails to specially disclose a radio network controller (RNC), and a Node B for controlling the dynamic adjustment of the beam to optimize transmission between the antenna and at least one WTRU. However, Malladi teaches method and apparatus for uplink power control during link imbalance that considers the reverse link HS-DPCH, and Malladi teaches a radio network controller (RNC) (paragraph 0028), and a Node B for controlling the dynamic adjustment of the beam to optimize transmission between the antenna and at least one WTRU (paragraph 0028). Therefore, it have been obvious to one of ordinary skill in the art at the time the invention was made to use a radio network controller (RNC), and a Node B for controlling the dynamic adjustment of the beam to optimize transmission between the antenna and at least one WTRU as taught by Malladi with Shapira teaching in order to maintain the integrity of the uplink HS-DPCCH when the UE goes into different cell or sector.

Regarding claim 16, Shapira further teaches the wireless communication system of claim 15 wherein information from the radio network controller and the plurality of WTRUs is used to compute tilt information for dynamically adjusting the beam (fig.9-10, page 2, lines 11-18, page.13, line 24 to page.25, line 24).

Citation of Pertinent Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shapira et al. (U.S.Pat-6889061) discloses System and method for providing polarization matching on a cellular communication forward link.

Eswara et al. (U.S.Pat-6597927) discloses Narrow beam traffic channel assignment method and apparatus.

Barton et al. (U.S.Pat-6016123) discloses Base station antenna arrangement.

Dean et al. (U.S.Pat-5771017) discloses Base station antenna arrangement.

Kishino Yasuhiro (Japan-2000-124720) discloses Radio communication device.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571.272.7923. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571.272.7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khai Nguyen
Au: 2687

11/29/2005


12/8/05
LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER